COMMONWEALTH OF MASSACHUSETTS

RABIES CONTROL PLAN FOR CITIES AND TOWNS

This document was prepared by:

Massachusetts Department of Public Health

Massachusetts Department of Agricultural Resources

Massachusetts Department of Fish and Game

Reviewed by the Massachusetts Rabies Advisory Committee
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MASSACHUSETTS RABIES ADVISORY COMMITTEE MEMBERS

Timothy Alger	U.S. Department of Agriculture, Wildlife Services
Brian Borland	U.S. Department of Agriculture, Wildlife Services
Catherine Brown, DVM	Massachusetts Department of Public Health
Fredric Cantor, DVM	U.S. Department of Agriculture, APHIS
Michael Cahill	Massachusetts Department of Agricultural Resources
Monte Chandler	U.S. Department of Agriculture, Wildlife Services
Dana Cole, MPH	Massachusetts Department of Public Health
Melissa Cumming, MS	Massachusetts Department of Public Health
Alfred DeMaria Jr., MD	Massachusetts Department of Public Health
Julie Linage, DVM	Massachusetts Society for the Prevention of Cruelty to Animals
Fran Feeney	Wildlife Rehabilitators Association of Massachusetts
Thomas French, PhD	Massachusetts Division of Fisheries and Wildlife
Wendy Henderson	Massachusetts Health Officers Association
Chrissie Hennery	Massachusetts Division of Fisheries and Wildlife
Dennis Hennigan	Massachusetts Department of Public Health, State Laboratory Institute
Raimond Konomi	Massachusetts Department of Public Health, State Laboratory Institute
Edward Leonard, DVM	Massachusetts Board of Veterinary Medicine
Carter Luke	Massachusetts Society for the Prevention of Cruelty to Animals
Leonard Marcus, VMD, MD	Massachusetts Medical Society
Janet Martin, DVM	Tufts Cummings School of Veterinary Medicine
Bela Matyas, MD	Massachusetts Department of Public Health
Hayley Murphy	Zoo New England
Lee McConnell	Barnstable County Department of Health and Environment
Kerry O’Brien	Massachusetts Department of Public Health
Sean O’Brien	Barnstable County Department of Health and Environment
Lorraine O’Connor, DVM	Massachusetts Department of Agricultural Resources
Colleen Olfenbuttel	Massachusetts Division of Fisheries and Wildlife
Paul Pisinski	Massachusetts Health Officers Association
Alison Robbins, DVM	Tufts Cummings School of Veterinary Medicine
Steven Rowell, DVM	Tufts Cummings School of Veterinary Medicine
Susan Soliva, MPH	Massachusetts Department of Public Health
Xingtai Wang	Massachusetts Department of Public Health, State Laboratory Institute
Sue Webb	Animal Control Officers Association of Massachusetts

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CHAPTER 1: GENERAL INFORMATION

A. Introduction

The raccoon rabies epizootic reached Massachusetts in September 1992 and has spread to all parts of the Commonwealth, except the islands of Martha's Vineyard and Nantucket. Bat rabies, first detected in Massachusetts in 1961, continues to be a problem throughout the state.

Prior to March of 2004, Cape Cod was considered to be free of terrestrial rabies. In March of 2004, the first evidence of terrestrial rabies on Cape Cod appeared in a rabies-positive raccoon found in Bourne. Since then, evidence of terrestrial rabies has been documented in every town east of the Cape Cod Canal.

Between September 1992 and September 2006, more than 47,000 animal specimens have been submitted to the State Laboratory Institute (SLI) for rabies testing. Of these specimens, more than 4,400 have tested positive for rabies. Positive animals include more than: 2,500 raccoons, 1,400 skunks, 340 bats, 125 cats, 125 foxes and 80 woodchucks. Other species that have had at least one animal test positive in Massachusetts include: cow, dog, horse, pig, otter, fisher, goat, chinchilla, shrew, rabbit, and deer.

The number of cases of rabies identified in animals in Massachusetts peaked in 1994 at 735 cases. Since then, depending on the population dynamics of the wild animal population that serves as a reservoir for the rabies virus, the number of cases of rabies identified in animals has varied in 3-5 year cycles.

The public health impact of rabies in Massachusetts remains significant. On average, each rabid animal identified in Massachusetts exposes one human and 2 pets. Significant time and resources are expended in testing suspect animals, in evaluating human and pet exposures, and in the quarantine of pets that have bitten or scratched humans or other pets.

Local health directors have the lead responsibility for the development of rabies policy and for oversight of rabies-related prevention and control activities in their jurisdictions. However, many other individuals are key participants, including animal control officers and animal inspectors, police, veterinarians, health care workers, and others. It is essential that good communication exist among all parties involved in a comprehensive, local rabies response team.

Each community in Massachusetts must assume it has bat rabies, and except for the islands of Nantucket and Martha's Vineyard, communities must assume they also have terrestrial rabies. Provisions should be made at the local level for each of the steps involved in a comprehensive rabies control program. For each step of the comprehensive program, it is critical to identify the person or persons responsible and facilities or resources to be used. For each individual community the need for transportation arrangements and facilities for isolation and quarantine occurs infrequently. However, when the need arises, advanced preparation and communication are essential to ensure an efficient and effective response.

The goals of local rabies prevention and control activities are: 1) to prevent human cases of rabies and 2) to prevent rabies in domestic animals. The purpose of this Rabies Control Plan is to review the prevention and control activities that can help to attain these goals. The document is divided into sections on human exposures, domestic animal issues, and wild animal issues.

B. Elements of a Comprehensive Rabies Control Plan

1. Capture of suspect rabid animals that have exposed humans or domestic animals;
2. Euthanasia of suspect rabid animals;
3. Decapitation of animals whose heads are to be sent to the MDPH State Laboratory Institute (SLI) for rabies testing;
4. Proper transportation of animal heads to the MDPH SLI for rabies testing;
5. Disposal of carcasses after decapitation;
6. Quarantine of domestic animals for which there are shedding studies (cats, dogs, ferrets and cattle) which have exposed humans; and
7. Isolation and confinement of domestic animals with exposure to suspect rabid animals according to state guidelines and regulations.

Personnel and Resources to Provide:

1. Education/information activities for the general public, particularly children and health care providers;
2. Post-exposure education and information to guide decision-making and advice; and
3. Pre-exposure immunization information.

C. Legislative Authority / Relevant Laws and Regulations

1. Anti-rabic vaccine and treatment; reimbursement for cost (MGL c.140, s.145A).
2. Rules and regulations relative to the treatment of persons exposed to rabies (105 CMR 335.000).
3. Vaccination against rabies; certificate; tag; proof of vaccination; penalty (MGL c. 140, s. 145B).
4. Regulations relative to the vaccination of dogs and cats against rabies (105 CMR 330.000).
5. Prevention of the spread of rabies (330 CMR 10.00). Regulations concerning the vaccination and quarantine of domestic animals.
6. Quarantine of diseased animals: notice of order; records (MGL c.129, ss.21-27).
7. Notice of contagious disease to director (MGL c.129, s.28). Contagious diseases in animals must be reported to the Department of Food and Agriculture.
8. Ferrets; possession and use (MGL c.131, s.77).
9. Most wildlife species, including raccoons, skunks, and foxes, are prohibited as pets (MGL c.131, s.23 and CMR 2.12 (9)).
10. Translocation and release of wild animals is prohibited (MGL c.131, s.19A and 321 CMR 2.14 (23) (b)).
11. Captured problem animals must be released at the point of capture or destroyed (321 CMR 2.14 (23) (b)).
12. Rehabilitated injured wildlife must (with few exceptions) be released at “a location within five miles of the point of capture, or within the same county to which the permittee maintains facilities” (321 CMR 2.13 (2) and (22) (a)).
13. Quarantine of diseased fish, birds, mammals, etc.; order or notice; procedures; liability for expenses (MGL c. 131, ss. 25A-25C). Quarantine of wild animals including those crossbred to domestic animals.

D. Definitions as Used in this Document

Definitions marked with an asterisk (*) have been abstracted from the Massachusetts Department of Agricultural Resources, PREVENTION OF THE SPREAD OF RABIES, 330.0 CMR 10.00.

Exposed* – shall include: Exposed by Direct Contact, Exposed by Proximity or received a Wound of Unknown Origin.

Exposed by Direct Contact* – Had physical contact with, received a bite or scratch from, or ate the viscera of a confirmed or suspected rabid animal.

Exposed by Proximity* – Seen near or in the vicinity of a confirmed rabid animal, but had no physical contact with, nor received any wounds from, the confirmed rabid animal.

HRIG (Human Rabies Immune Globulin) – Pre-formed human antibodies against rabies virus, which can be injected into a human after an exposure to a confirmed or suspect rabid animal. HRIG is used, in conjunction with the vaccine series, *only* when the exposed human has not previously been vaccinated for rabies. Also referred to as RIG (Rabies Immune Globulin).

Incubation Period – The time it takes for symptoms to begin after an animal or human is exposed to a disease-causing organism.

Isolation* – Restricting a domestic animal from direct contact with any human or other animal; confining the animal to a facility such as a dog pound, veterinary hospital, commercial kennel or quarantine facility for livestock approved by the animal inspector of the appropriate municipality; or isolation at home under conditions approved by the animal inspector of the municipality and the Department of Agricultural Resources.

Post-Exposure Prophylaxis (PEP) – A series of injections including rabies vaccine and human rabies immune globulin, used to prevent rabies from developing in a human after exposure to a suspected or confirmed rabid animal.

Quarantine* – Confinement of a domestic animal from humans and other animals for the purposes of observing the animal for signs of rabies and minimizing chances of the animal spreading rabies to humans and other animals. This includes isolation and strict confinement.

NOTE: There are several different types of animal quarantines used in rabies control. These include a 10-day quarantine, a 45-day quarantine, and a 180-day quarantine. The details of each exposure are evaluated on a case-by-case basis to determine the appropriate length of quarantine. For more information about quarantines of cats, dogs, and livestock, call the Department of Agricultural Resources, Division of Animal Health and Dairy Services at (617) 626-1795; for information about quarantines of ferrets, call the Massachusetts Department of Fish and Game, Division of Fisheries and Wildlife (MDFW) at (617) 626-1591. For information about the implications of animal quarantines for human exposures, call the MDPH Division of Epidemiology and Immunization 617-983-6800.

RIG (Rabies Immune Globulin) – See "HRIG" definition above.

Shedding – The release of rabies virus from the salivary glands into the saliva. When shedding occurs in an animal infected with rabies, the virus can be transmitted if the virus-containing saliva enters the body of a human or other animal via a bite, scratch, a break in the skin, or a mucous membrane.

Signs of Rabies – The signs of rabies vary in animals; **the behavior of an animal is NOT a reliable indicator of whether or not it has rabies.** Some of the more common signs include: unexplained aggression, impaired locomotion, varying degrees of paralysis, hyper salivation and extreme depression.

Strict Confinement – Maintenance of a domestic animal in an escape-proof, solid-walled building with a roof, approved by the animal inspector of the municipality. The animal may be leash walked by an adult or under the direct supervision of an adult.

Suspect Rabid Animal – 1) any raccoon, bat, fox, skunk, woodchuck (groundhog) or coyote in Massachusetts; 2) other wild mammal showing signs consistent with rabies; or 3) domestic animals such as dogs, cats, ferrets or livestock showing signs of rabies.

NOTE: The rabies virus can infect any mammal. Birds, reptiles, amphibians and fish can not be infected with or transmit rabies.

Symptoms of Rabies – See **"Signs of Rabies"** definition above.

Viral Shedding – See "**Shedding**" definition above.

Wound of Unknown Origin* – A puncture wound, cut or scratch which has broken the skin and was obtained from an unknown source but is presumed to be from another animal.

E. Agency Roles and Responsibilities

Massachusetts Department of Public Health (MDPH), Bureau of Communicable Disease Control (BCDC), Division of Epidemiology and Immunization

The role of MDPH, BCDC is to provide technical guidance to local boards of health, medical personnel and individuals regarding the evaluation, management and control of human exposures to known or suspect rabid animals.

MDPH, BCDC may provide preliminary guidance regarding the quarantine of animals; however, formal jurisdiction for the enforcement of quarantine regulations of domestic animals lies with the Department of Agricultural Resources, Division of Animal Health and Dairy Services and for the enforcement of quarantine regulations of ferrets with the Department of Fish and Game, Division of Fisheries and Wildlife (MDFW).

Massachusetts Department of Public Health (MDPH), State Laboratory Institute (SLI), Bureau of Laboratory Sciences (BLS), Virology Laboratory

The role of the MDPH State Laboratory Institute is to provide accurate, timely testing of suspect rabid animals involved in exposures of humans or domestic animals. Viral strain typing is performed for rabies virus-positive animals other than raccoons. Laboratory staff report individual results daily to submitters, BCDC epidemiologists, local boards of health, and Department of Agricultural Resources staff and forward composite results to the federal Centers for Disease Control and Prevention (CDC). Positive results are also sent to the Division of Fisheries and Wildlife. Laboratory personnel maintain a database of results

with selected demographic information. Additional testing is performed in support of the Cape Cod Oral Rabies Vaccination Program and other efforts to track and reduce the spread of rabies virus in the Commonwealth.

Massachusetts Department of Agricultural Resources, Division of Animal Health and Dairy Services (MDAR)

The role of the MDAR is to provide technical guidance to veterinarians, medical or health professionals, animal inspectors, animal control officers and the public regarding rabies in domestic animals. MDAR issues include: rabies vaccination protocols; management of domestic animals exposed or possibly exposed to rabid animals; and, quarantine or testing procedures for domestic animals that have potentially exposed humans to rabies. MDAR appoints an animal inspector for each city and town in the Commonwealth. Animal inspectors are responsible for implementing and maintaining rabies quarantines on all domestic animals. MDAR also assists municipalities with prevention efforts through promotion of low-cost rabies vaccination clinics for companion animals.

Massachusetts Department of Fish and Game, Division of Fisheries and Wildlife (MDFW)

The role of MDFW is to provide technical guidance to state and local agencies and individuals regarding the status, distribution, and control of wildlife, including rabies vector species. MDFW strives to increase public awareness of wildlife and wildlife disease issues, to regulate the exclusion and removal of wildlife from homes by licensed problem animal control agents, and to regulate the harvest of raccoons by licensed hunters and trappers. MDFW's regulations prohibit the relocation of wild animals within the state and possession of most wild mammals as pets, and prohibit or restrict the importation of high-risk rabies vector species. MDFW is also responsible for regulating the rabies vaccination and quarantine of domestic ferrets.

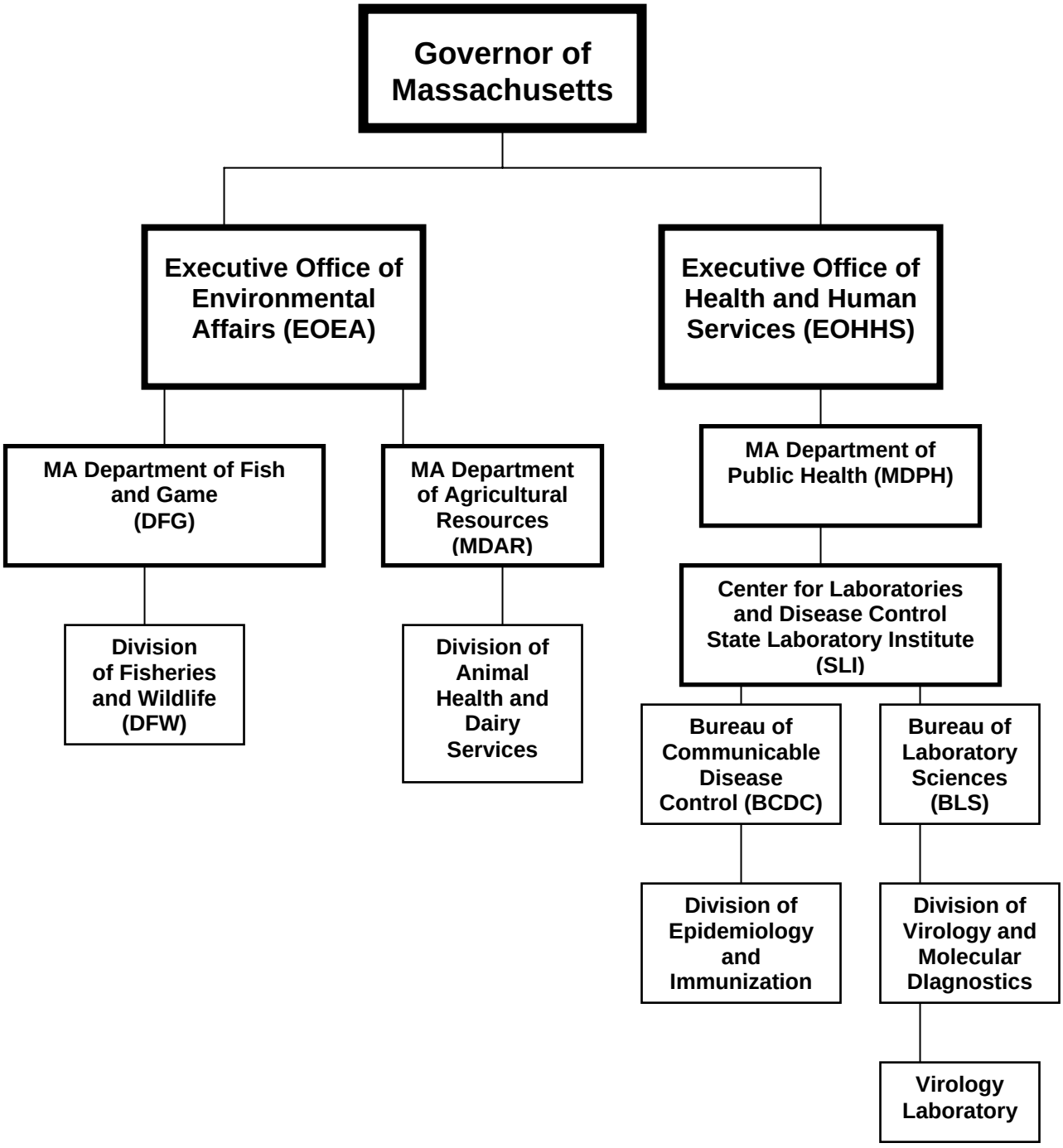
US Department of Agriculture (USDA), Animal and Plant Health Inspection Services (APHIS), Wildlife Services (WS)

The Wildlife Services (WS) program of the United States Department of Agriculture's (USDA), Animal and Plant Health Inspection Service (APHIS) provides leadership and cooperative assistance in managing damage or conflicts caused by wildlife. WS provides a lead agency role in collaborative wildlife rabies management in the U.S., and cooperates in international rabies control efforts as well. Assistance from WS regarding rabies management in Massachusetts may include the dissemination of critical wildlife rabies management information from other states and from the WS National Wildlife Research Center and assistance with public relations.

F. List of Acronyms and Abbreviations

ACIP	Advisory Committee on Immunization Practices
ACO	Animal control officer
ACOAM	Animal Control Officers Association of Massachusetts
APHIS	Animal and Plant Health Inspection Services
CCORVP	Cape Cod Oral Rabies Vaccination Program
CDC	Centers for Disease Control and Prevention
HDCV	Human diploid cell vaccine
HRIG	Human rabies immune globulin
LBOH	Local Board of Health
MDAR	Massachusetts Department of Agricultural Resources
MDFW	Massachusetts Division of Fisheries and Wildlife
MDPH	Massachusetts Department of Public Health
MMS	Massachusetts Medical Society
MSPCA	Massachusetts Society for the Prevention of Cruelty to Animals
MVMA	Massachusetts Veterinary Medical Association
PAC	Problem animal control (agents)
PCEC	Purified chick embryo cell (vaccine)
PEP	Post-exposure prophylaxis
RFFIT	Rapid fluorescent focus inhibition test (serological test)
RIG	Rabies immune globulin
RVA	Rabies vaccine adsorbed
SLI	State Laboratory Institute
TUSVM	Tufts Cummings School of Veterinary Medicine
USDA	US Department of Agriculture
WHO	World Health Organization

G. Organizational Chart of State Agencies Involved in Rabies Control (December 2006)



CHAPTER 2: HUMAN EXPOSURES

Rabies is a viral disease and is zoonotic; meaning it normally affects animals but is capable of being passed to humans. Humans can get rabies if virus-containing saliva from an infected animal enters the body of a human or other animal via a bite, a scratch, a break in the skin, or a mucous membrane exposure. Because rabies virus is also present in the nervous tissue of infected animals, humans can also be exposed in laboratory or taxidermy environments, or other contexts where they are exposed to nervous tissue.

Except in rare, solid organ transplant situations, only saliva and central nervous system (CNS) tissue (brain and spinal cord) are considered to be infectious. Blood, urine and feces do not serve as sources of infection.

Once the virus enters the human body, it undergoes a latent period of variable duration and then begins to replicate at the site where it entered the person. It then enters a peripheral nerve and travels along the nerve to the central nervous system. There is no standard treatment for rabies once the person has developed symptoms.

In humans, the incubation period of rabies is usually 31 to 90 days, but in rare cases can be as short as 10 days or longer than a year. Because the virus has to travel through nerve cells up to the brain, the site of the exposure and its distance from the CNS partially determine the incubation period. A bite to the face requires a shorter incubation time than one to the hand. The strain of the rabies virus also plays a role in the incubation period.

Activities to prevent rabies in humans include:

- Prevention of human exposures to potentially rabid animals;
- Ensuring that persons who are exposed to a rabid or potentially rabid animal receive post-exposure prophylaxis in a timely manner; and
- Promotion of pre-exposure prophylaxis for persons who are at high risk for exposure to rabid or potentially rabid animals.

A. Risk Reduction and Education

More than eighty percent of animal bites to humans are preventable. Over two-thirds of bites occur when humans are petting or feeding wildlife or domestic animals that they do not know. Education for the general public, health professionals, and veterinary professionals can help prevent human exposures to potentially rabid animals. Local health departments should disseminate information prepared by Massachusetts Department of Public Health (MDPH), Massachusetts Department of Agricultural Resources (MDAR) , Massachusetts Department of Fish and Game (DFG), Massachusetts Veterinary Medical Association (MVMA), Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) and other agencies, to the residents in their town.

Education for the general public should emphasize the following steps to decrease human exposure to rabies:

- Do not pick up, touch or feed wild or stray animals of any kind. This includes leaving pet food outside for your own animals or other animals.
- Avoid sick or strange-acting animals.
- Vaccinate all cats, dogs, ferrets and livestock against rabies.
- Fasten trash can lids tightly. Garbage attracts raccoons and other wild mammals.
- Cap chimneys and seal openings into houses, garages, etc., to prevent raccoons and other animals from entering or building dens.
- If you are bitten or scratched by any animal you should promptly wash the wound(s) with soapy water and consult a healthcare provider immediately.
- If your pet is bitten or scratched by another animal, wear gloves when handling or cleaning your pet. Afterwards, wash your hands thoroughly.
- Teach children to avoid wildlife and strays.

B. Obtaining Baseline Information and Local Wound Management

When a human exposure has occurred, the local health officer or designee should obtain in writing baseline information and advise exposed humans about the importance of immediate local wound management.

Baseline information should include:

- The name, telephone number, and address of the victim;
- The date, time, and location of the incident;
- The rabies immunization status of the person and animal;
- The name, address, and telephone number of the animal owner, if one exists;
- The location of the wound; and
- Whether the exposure was provoked.

NOTE: A bite is considered provoked if it is within the normal range of behavior for the type of animal under the circumstances. The presence of provocation should be evaluated based on the presumed perspective of the animal, not the intention of the person. Examples of provoked bites would be (1) a dog biting a person entering its territory; (2) a feral cat or a wild animal (e.g., squirrel) biting someone feeding or petting it; and (3) a wounded animal biting someone trying to lift it or care for it.

Local wound management is critical as it can actually prevent disease by killing the recently introduced virus before it has a chance to invade local nerves. Local wound care should include:

- Vigorously and thoroughly washing the wound with plenty of soap and water;
- Use an antiseptic and other measures to control bacterial infection; and
- Immediate referral to a health care provider for further evaluation, treatment and a tetanus booster if indicated.

C. Evaluating Risk of Exposure and Need for Post-Exposure Treatment

1. Evaluating Risk of Exposure

When a human exposure has occurred, the local health officer or their designee should provide advice about the need for post-exposure prophylaxis according to the most recent recommendations of the Advisory Committee on Immunization Practices (ACIP). **The final decision on whether or not to administer rabies post-exposure prophylaxis rests with the patient and their medical provider.** When deciding whether or not rabies prophylaxis is indicated the following information should be considered:

- The extent/severity of the exposure;
- Circumstances surrounding the exposure, e.g., provoked or unprovoked;
- Whether the animal was wild or domestic;
- If a wild animal, which species;
- If a bat, whether it may have been alone in the room with a sleeping or otherwise incapacitated adult or child;
- If a wild animal, whether it is available for testing;
- If a domestic animal, whether it is available for quarantine or testing; and
- Whether the animal was showing neurological or behavioral signs compatible with rabies.

A table summarizing the above ACIP approach to evaluation of a human exposure is enclosed (Attachment 1). The ACIP statement is available in its entirety on line at: http://www.cdc.gov/MMWR/preview/mmwrhtml/00056176.htm.

[NOTE: As of this writing, the most current version of the ACIP statement is from 1999. A new version is scheduled to be published in March, 2007.]

The MDPH algorithm for “Management of Human Exposures to Suspect Rabid Animals” (Attachment 2) also summarizes this approach to decision making and includes information for evaluating human exposures, initiating prophylaxis and submitting specimens for testing.

Categories of exposure

There are two categories of direct (primary) exposure: bite and non-bite. Bite exposures are exactly what they sound like. Saliva from the rabies suspect animal is directly introduced into the body through a bite by that animal. Non-bite (primary) exposures include scratches, abrasions, and open wounds or mucous membranes contaminated with saliva or other potentially infectious material, such as brain tissue. These exposures to rabies can occur when saliva, or other

infectious material (i.e., nervous tissue) from a rabid animal, enters a fresh cut (a wound that has been bleeding in the past 24 hours), a scratch, or a mucous membrane (eye, nose, or mouth). However, if the material is dry, it can be considered non-infectious; sunlight, ultraviolet (UV) light, and detergent also inactivate the virus.

Indirect exposures occur when infectious material from a rabid animal (saliva or nervous tissue) contaminates an object or surface. Viable infectious material from this secondary object or surface must then enter a fresh cut (a wound that has been bleeding in the past 24 hours), a scratch, or a mucous membrane (eye, nose, or mouth) for a secondary (indirect) exposure to occur. For example, people handling a dog or cat within a short time after it has encountered a rabid animal may have been indirectly exposed to rabies, **if** saliva from the rabid animal was on the dog or cat's fur, the saliva was still wet, and the person had a fresh (bleeding within the last 24 hours) cut on their hands or splashed the saliva in their eye or mouth.

Evaluation of indirect (secondary) exposures can be more difficult than the evaluation of direct exposures. Although there has never been a documented case of human rabies resulting from an indirect (secondary) exposure, the factors that should be considered include the time since the pet's exposure to the potentially rabid animal, the ambient weather conditions (temperature and humidity), and whether the contact of the domestic animal with the human involved a fresh wound or mucous membranes. The rabies virus is fragile. Common environments do not provide conditions conducive to the survival of rabies viruses, and survival times in the natural environment, while variable, are short.

Situations with little or no risk

Petting a rabid animal or coming into contact with an animal's blood, urine, feces, or skunk spray does NOT constitute an exposure or require prophylaxis. However, if the abovementioned body parts/secretions are mixed with saliva, the exposure should be evaluated accordingly.

2. Risk of Rabies Associated with Different Animals

Domestic animals and livestock

Domestic animals and livestock are of significant concern because they can serve as the bridge between rabies in wild animals and humans. From September 1992, when raccoon rabies entered Massachusetts, through September 2006, 131 cats, 14 cattle, 8 dogs, 3 horses and 3 pigs have tested positive for rabies in the state. After a domestic dog, cat, ferret or cow exposes a person, these animals (for which there are scientific studies on shedding time of the rabies virus), regardless of their vaccination status, should be quarantined for ten days if they are healthy and available. If the animal is healthy at the end of the ten-day quarantine period, post-exposure prophylaxis is not recommended. If the animal exhibits signs of rabies or dies within the ten-day quarantine period, it should be submitted for rabies testing and if found to be rabid, the need for post exposure prophylaxis should be evaluated. Rabies vaccinations in domestic animals and livestock are not 100% effective, and rare cases of vaccinated domestic animals and livestock developing rabies have occurred, so these animals need to be quarantined just like unvaccinated ones.

Bats

Exposures or potential exposures to bats should be carefully evaluated. Bats are considered to present a high risk for human exposure to rabies. Although estimates are that less than 1% of wild bats are rabid, the size of bites or scratches from bats may be very small. Thus, bat bites may go unnoticed or be mistaken for an insect bite or sting and individuals may not recognize that an exposure has occurred. Post-exposure prophylaxis should be given in any situation in which a bat is physically present and a bite, or any other exposure or contact, cannot be ruled out. In situations in which there is reasonable probability that such contact occurred (e.g., a sleeping individual awakes to find a bat in the room, an adult witnesses a bat in the room with a previously unattended child, mentally challenged person, intoxicated individual, etc.), post-exposure prophylaxis is appropriate, even in the absence of a demonstrable bite or scratch. If the bat is available and can be tested promptly, prophylaxis may be postponed pending test results.

If a bat was physically present in a room and the first responder or animal control officer cannot rule out that a person was bitten, scratched, or had a mucous membrane exposure to the bat, the MDPH recommends safely capturing the bat and testing it for rabies. Health officers, animal control officers and first responders should develop a protocol for responding to citizen calls when

a bat is found in a home. First responders should be trained not to release a bat until a careful evaluation has excluded the potential for human exposure to the bat. Information on how to safely capture a bat is available by following the "Bats & Rabies" link at the CDC web site at http://www.cdc.gov/ncidod/dvrd/rabies/.

High risk wild animals

Wild animals considered to be high risk for carrying rabies include raccoons, bats, skunks, foxes, and coyotes. In addition, woodchucks accounted for 2% of all rabies positive animals and 93% of all rabies positive rodents in Massachusetts between 1992 and 2001. For this reason, contact with woodchucks should be evaluated no differently than contact with other high-risk species.

If a person is bitten or otherwise exposed to one of these animals, the animal should be tested for rabies as soon as possible. If the animal tests positive for rabies, or is unsatisfactory for testing for any reason, the individual should begin post-exposure prophylaxis (PEP). If the animal tests negative, PEP is not recommended. Although PEP should begin as soon as possible after exposure, it is reasonable to wait for test results before beginning. If there are questions regarding a delay in testing, call the MDPH Division of Epidemiology and Immunization for advice at (617) 983-6800. If the exposing animal is not available for testing, it should be assumed to be rabid, and post-exposure prophylaxis decisions should be made accordingly.

Small wild mammals

Small wild rodents (squirrels and chipmunks), insectivores (shrews and moles) and lagomorphs (rabbits and hares) present a very low risk of transmitting rabies to humans. When these animals bite people, prophylaxis is rarely required, and testing of the animal for rabies is rarely recommended. These animals are so small that if a rabid animal (raccoon, skunk, fox, etc.) were to attack, the animal would likely die before having a chance to develop rabies. Only when such animals attack in an unprovoked manner should there be suspicion of rabies. Small animals, such as squirrels and chipmunks that bite humans who are feeding them, are acting normally. Such bites are considered provoked, and people should be taught not to hand feed wild animals. Squirrels are unlikely to present with rabies, and their bites almost never require prophylaxis. The only exception to this list is the woodchuck, also called a groundhog, which is considered at higher risk for carrying rabies (see High Risk Wild Animals).

Other larger aquatic mammals, such as beavers, muskrats, and otters, are considered to present an intermediate risk for rabies because they may be large enough to fight off or effectively escape the attack of a rabid animal and survive to develop rabies themselves. Beavers have occasionally been reported to be rabid in the United States and 3 out of 8 otters tested in Massachusetts were rabid.

Rodents and other small mammals caged outdoors

Outdoor cages housing rodents and lagomorphs may allow exposure to rabid animals, but offer enough protection so that these smaller animals survive the exposure. There have been rabies cases reported in animals caged outdoors in this manner. If a small animal that is caged outdoors exposes a human and is not available for testing, post-exposure prophylaxis should be considered.

Rodents and other small mammals caged indoors

Healthy caged rodents and lagomorphs such as hamsters, gerbils, rats, mice and rabbits which have been caged **exclusively** indoors for the past six months or more, and which have not been exposed to any potentially rabid animals for the past six months, pose a negligible risk of being rabid.

3. Behavior of Animals with Rabies

The behavior of an animal is NOT a reliable indicator of whether or not the human exposed is at risk.

Animals with rabies can appear aggressive ("furious rabies") or normal or meek ("dumb rabies"). Common signs of rabies include neurologic signs, such as paralysis and ataxia (uncoordinated movement), and hypersalivation. Rabid animals often behave strangely after the virus attacks their brains. Rabid animals may attack people or other animals for no reason. Wild animals may lose their fear of people and seem to be unnaturally friendly. Not all rabid animals act in these ways, however, so all wild and stray animals should be kept at a distance - especially bats, skunks, foxes, and raccoons.

4. Post-Exposure Treatment

After reviewing the circumstances surrounding the exposure, the local health officer can provide advice about the need for administration of rabies immune globulin (RIG) and rabies vaccine. The correct rabies post-exposure schedule will depend on whether or not the individual has ever received rabies pre-exposure prophylaxis (see Attachment 3). Two rabies vaccines are available currently in the United States: human diploid cell vaccine (HDCV) and purified chick embryo cell (PCEC) vaccine. They are safe, effective, and require a series of five injections, if not previously immunized, administered in the arm in adults and, when indicated, in the thigh in younger children. Specific immune globulin available in the United States is human rabies immune globulin (HRIG). It also is safe and effective, and should be given with the first dose of the rabies vaccine to previously unimmunized individuals.

Those people who have received pre-exposure prophylaxis (a series of 3 injections of vaccine without HRIG) or who have previously received post-exposure prophylaxis due to a rabies exposure, are considered to be previously immunized against rabies. After a new exposure, those previously immunized individuals require 2 injections of vaccine without HRIG.

MDPH Division of Epidemiology and Immunization is available 24 hours a day, seven days a week, to provide guidance: 617-983-6800

All advice should be discussed with an appropriate health care provider. The final decision as to whether or not to administer PEP to an individual is a medical one and can only be made by a licensed physician. This decision should be made by the patient and their physician after a careful review of all the variables surrounding the exposure.

Hospital pharmacies and urgent care centers often stock HRIG and HDCV. We urge you to check with the facilities serving your area regarding the local availability of these agents. HRIG and HDCV can be obtained by contacting Sanofi-Pasteur (1-800-VACCINE). PCEC can be obtained by contacting Novartis (1-800-244-7668). HRIG can be obtained by contacting Talecris, Customer Service (1-800-243-4153).

D. Laboratory Testing of Animals

After a significant human exposure has occurred, the local health department should assist the local animal control official, physician and town residents to facilitate animal testing. The MDPH State Laboratory Institute will perform rabies tests on wild or domestic animals that have exposed humans or domestic animals. For information on submission of such specimens, please refer to Chapter 3 (Domestic Animal Issues), Chapter 4 (Wild Animal Issues), and Attachment 9 (Guidelines for Submission of Specimens for Rabies Testing).

E. Promoting Pre-Exposure Prophylaxis

Local health departments should ensure that all animal control officials, veterinarians and other high-risk personnel in their community are aware that it is recommended that they receive pre-exposure prophylaxis. The ACIP recommendations should be consulted for **pre-exposure prophylaxis** by risk category/occupation, and the local epidemiology of rabies should be considered. Veterinary, animal and wildlife workers in Massachusetts are classified in the “frequent” risk category.

ADDITIONAL INFORMATION ABOUT PRE- AND POST-EXPOSURE PROPHYLAXIS CAN BE FOUND IN THE MOST RECENT EDITION OF THE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES (ACIP) STATEMENT ON RABIES PREVENTION. [NOTE: AS OF THIS WRITING, THE MOST CURRENT VERSION IS FROM 1999. AN UPDATED VERSION IS SCHEDULED TO BE PUBLISHED IN MARCH, 2007.]

CHAPTER 3: DOMESTIC ANIMAL ISSUES

Rabies is a viral disease that affects mammals. Often it is wild animals that are affected, but domestic animals, livestock, and humans are also at risk. Domestic animals serve as a potential "bridge" from wildlife to humans, so protecting domestic animals from rabies is particularly important for safeguarding human health.

The incubation period (the time between exposure to the virus and the development of symptoms) differs for different species. Scientific studies about the progression of rabies have guided recommendations about the vaccination and quarantine of domestic animals and livestock.

Massachusetts law requires that all dogs, cats and ferrets be vaccinated against rabies (MGL c. 140, s. 145B). Compliance with the vaccination requirements is critical to prevent the transmission of rabies. The Department of Agricultural Resources (MDAR) is authorized to control the spread of rabies in domestic animals (330 CMR 10.00). Specifically with regard to ferrets, the Department of Fish and Game, Division of Fisheries and Wildlife (MDFW) has this same authorization. Much of the activity to control transmission of rabies in domestic animals focuses upon action at the local level.

Questions concerning domestic animals, such as issues of quarantine, should be addressed to the Massachusetts Department of Agricultural Resources at (617) 626-1794. Questions concerning ferrets, including the quarantine of ferrets, should be addressed to the Massachusetts Division of Fisheries and Wildlife (MDFW) at (617) 626-1591.

The objectives of domestic animal rabies prevention activities are:

- To ensure that all dogs, cats, ferrets and livestock are vaccinated against rabies;
- To respond effectively to incidents involving domestic animals which expose a human or other domestic animal;
- To respond effectively to incidents involving domestic animals which are exposed to a potentially rabid animal;
- To create a uniform and effective system to respond to reports of rabies transmission to domestic animals; and
- To discourage the indiscriminate killing of healthy domestic animals as a rabies control measure.
- To recommend vaccination for other domestic animal species that are in settings where they are likely to have frequent contact with members of the public, i.e., petting zoos.

A. Local Animal Control Activities

Every city and town must designate an animal inspector who will coordinate appropriate responses to suspected transmission of rabies to domestic animals with MDAR (MGL c. 129, ss. 15, 16). Animal inspectors are authorized to isolate and confine domestic animals suspected of being exposed to rabies. Acting according to state regulations and guidelines, animal inspectors must:

- Investigate reports of domestic animals exposed to rabies.
- Determine if the domestic animal has or may have been exposed to a rabid animal, and if the domestic animal has been properly vaccinated.
- Make an evaluation of the exposure of the vaccinated animal and prescribe the appropriate action according to state regulations.
- Obtain permission to euthanize exposed, unvaccinated animals from their owners or from the MDAR.
- Carry out euthanasia permitted by the owner or MDAR.
- Collect the head of the euthanized animal and deliver or send it to MDPH State Laboratory Institute, if the animal has bitten or otherwise exposed a human or domestic animal.
- Ensure that vaccinated domestic animals receive a booster vaccination if needed, and that the animal remains under appropriate strict confinement or isolation.
- Contact local officials when exposed domestic animals have exposed humans.

B. Pre-Exposure Vaccination of Domestic Animals

Local governments should initiate and maintain effective programs to ensure the vaccination of dogs and cats. They should also urge vaccination of other domestic animals, particularly livestock. Animal rabies

vaccinations should be administered only by, or under, the direct supervision of a licensed veterinarian. This is the only way to ensure that a responsible person can be held accountable to assure the public that the animal has been properly vaccinated. Within one month after primary vaccination, a peak rabies antibody titer is reached and the animal can be considered immunized. An animal is considered immunized if it was initially vaccinated at least 30 days previously, and all initial and subsequent vaccinations have been administered in accordance with vaccine manufacturer's recommendations.

1. Dogs and Cats

All dogs and cats should be vaccinated against rabies in accordance with Massachusetts law (MGL c. 140, s. 145B). Vaccination is required by 6 months of age or within 30 days of acquisition if the animal is older than 6 months and still unvaccinated. Regardless of the age at initial vaccination, a second vaccination must be given 9-12 months later. After that, vaccinations can be given using a USDA approved 3-year vaccine every three years.

2. Livestock

All species of livestock are susceptible to rabies; cattle and horses are among the most frequently infected of all livestock. There are currently available USDA-approved vaccines for cattle, horses and sheep. These animals can be vaccinated as early as three months of age and re-vaccinated in accordance with vaccine manufacturer's recommendations. Consideration should be given to the vaccination of livestock, especially animals that are particularly valuable and/or may have frequent contact with members of the general public. The Department of Agricultural Resources may order the euthanasia of livestock exposed to rabies if the animal is unvaccinated or if vaccinated with a vaccine not approved by the USDA for that species.

The MDPH document, *Recommendations for Petting Zoos, Petting Farms, Animal Fairs, and other Events and Exhibits where Contact Between Animals and the Public is Permitted* contains a summary of recommendations to reduce human exposures to rabies through livestock. This document can be found at the MDPH rabies website at http://www.mass.gov/dph/cdc/epii/rabies/.

3. Wild Animals and Wild Animals Crossbred to Domestic Animals

No rabies vaccine is licensed for use in wild animals or wild animals crossbred to domestic animals, including wolf/dog (canid) hybrids and wild/domestic (felid) cat hybrids. Even if such an animal is vaccinated, it will not be considered vaccinated in the event that the animal is involved in a possible exposure incident. If a suspect animal is encountered, MDFW personnel will determine the biological status of the animal. If the animal is determined to be a domestic cat or dog, it will be handled according to MDAR procedures. If the animal is determined to be a hybrid, it will be handled according to MDFW quarantine and euthanasia procedures. This procedure is in accordance with Massachusetts law (MGL c. 131, ss. 25A-25C).

[NOTE: It is not legal to possess, sell, trade, breed, import, export or release a canine or feline hybrid in the Commonwealth of Massachusetts (MGL c. 131, s. 77A).]

4. Rodents and Lagomorphs

No rabies vaccine is licensed for use in wild or domestic rodents or lagomorphs (rabbits and hares).

5. Ferrets

All ferrets should be vaccinated in accordance with Massachusetts law (MGL c. 131, s. 77). There is currently a USDA-approved vaccine for ferrets. Ferrets can be vaccinated as early as three months of age and should be re-vaccinated annually. Quarantine of ferrets falls under the jurisdiction of the Department of Fisheries and Wildlife.

C. Management of Domestic Animals Exposed to Rabid or Suspected Rabid Animals

The local animal inspector manages the confinement of a domestic animal that has been exposed to wildlife. The animal inspector must notify the owner of the exposed domestic animal in writing using the *Notice of Possible Exposure to Rabies and Quarantine Order* (Attachment 5) distributed by the Department of Agricultural Resources.

1. High Risk Animals and a Special Word about Bats

Wild animals considered to be high risk for transmitting rabies include: raccoons, bats, skunks, foxes, woodchucks, and coyotes. If the wild animal is available, it should be euthanized,

decapitated, and the head transported to the MDPH State Laboratory Institute for rabies testing. Testing of other wild animals that have been exposed to domestic animals should be evaluated on a case by case basis.

Bats represent a particular risk because their bites or scratches may be very small and owners of domestic animals may not recognize that an exposure has occurred. If a bat was physically present in a room and the first responder or animal control officer cannot rule out that a domestic animal was bitten, scratched, or had a mucous membrane exposure to the bat, the Massachusetts Department of Public Health recommends safely capturing the bat and testing it for rabies. Health officers, animal control officers and first responders should develop a protocol for responding to citizen calls when a bat is found in a home. First responders should be trained not to release a bat until a careful evaluation has excluded the potential for domestic animal and especially human exposure to the bat. Information on how to safely capture a bat is available by following the "Bats & Rabies" link at the CDC web site at http://www.cdc.gov/ncidod/dvrd/rabies/.

2. Dogs and Cats

The Department of Agricultural Resources table for *Management of Dogs and Cats Exposed to Wildlife* provides guidelines for managing dogs and cats exposed to suspect rabid wildlife (Attachment 6). Management varies depending on the vaccination status of the dog or cat and the type of exposure.

3. Livestock

All livestock rabies exposures should be reported immediately to the Department of Agricultural Resources. Livestock exhibiting signs of abnormal behavior or which have been exposed to a rabid animal should be suspected of rabies. Under no circumstances should anyone place their hands in the oral cavity of such animals in an effort to examine or medicate. A veterinarian or the Department of Agricultural Resources should be contacted for advice.

Livestock bitten by a confirmed rabid animal and currently vaccinated with a vaccine approved by the USDA for that species should be revaccinated immediately and placed under strict confinement for 45 days. During this quarantine period, the animal must:

- Be kept under confinement to prevent escape; and
- Not be sold or relocated without permission of the Department of Agricultural Resources.

If the livestock escapes, the animal inspector or the Department of Agricultural Resources should be notified immediately.

If bitten by a *confirmed* rabid animal, unvaccinated livestock or livestock vaccinated with a vaccine not approved by the USDA for that species, should be euthanized immediately. If the owner is unwilling to have this done, the animal should be kept under strict confinement for six months. During this period the animal must:

- Be kept in a secure stall or pen separate from other animals and humans;
- Have limited contact with humans, i.e., limited to one or two caretakers; and
- Not be moved from the premises except with permission of the animal inspector or the Department of Agricultural Resources.

If the livestock escapes, the animal inspector and the Department of Agricultural Resources should be notified immediately.

4. Wild Animals Crossbred to Domestic Animals

Wild animals crossbred to domestic animals (e.g., wolf/dog hybrids and wild/domestic cat hybrids) that are exposed to rabies suspect wildlife should be euthanized immediately, regardless of vaccination history. There is no vaccine licensed for use in these animals, and the incubation period of rabies in these animals is unknown. Therefore, confinement and isolation are not appropriate.

5. Rodents and Lagomorphs

Rodents and lagomorphs exposed to rabies suspect wildlife should be euthanized immediately. If the owner is unwilling to have this done, the animal should be kept under strict confinement for six months.

6. Ferrets

The Division of Fisheries and Wildlife should be consulted regarding any ferret exposed to a rabid or suspected rabid animal. Management varies depending on the vaccination status of the ferret and the type of exposure. In general, DFW quarantine recommendations for ferrets mirror the MDFA dog and cat quarantine recommendations.

D. Management of Domestic Animals Exposed to other Domestic Animals

Massachusetts law requires that dogs and cats that bite other domestic animals be quarantined for 10 days (MGL c. 129, s. 21). The local animal inspector manages the confinement of a domestic animal that has exposed another domestic animal. The animal inspector is nominated by the local Board of Health and appointed by the Department of Agricultural Resources.

1. Dogs and Cats

The Massachusetts Department of Agricultural Resources (MDAR) table for *Management of Dogs and Cats Exposed to other Domestic Animals* provides guidelines for managing dogs and cats exposed to other domestic animals (Attachment 7). Requirements vary depending on the availability of the involved animals for quarantine.

2. Livestock

The management of livestock follows the activities that would occur in the case of a dog or a cat. Livestock that bite other domestic animals should undergo a 10-day quarantine period (MGL c. 129, s. 21). The animal inspector will determine the location and enforcement of the quarantine. If the livestock escapes and is unable to be observed for a 10-day period, the animal inspector should be notified immediately.

If the livestock is euthanized before the end of the 10-day quarantine period, it must be decapitated and the head examined for rabies by the MDPH, State Laboratory Institute Virology Laboratory. Responsibility for sending or delivering the head to the MDPH State Laboratory Institute is determined within the city or town.

Provided that the quarantined animal does not exhibit signs of rabies, the following can continue:

- Milking of rabies vaccinated dairy cows
- Shearing

3. Rodents and Lagomorphs

Rodents (hamsters, guinea pigs, gerbils, rats and mice) and lagomorphs (rabbits and hares) are rarely infected with rabies. If they are exposed by another domestic animal, the exposing animal should be quarantined for 10 days. If that animal is unavailable for quarantine, those procedures outlined for rodents or lagomorphs exposed to suspect rabid animals should be followed (see above).

4. Ferrets

Ferrets can be infected with rabies. In the event of a domestic animal exposure, a ferret should be quarantined for a ten-day period, regardless of vaccination status. Quarantine of ferrets falls under the jurisdiction of MDFW. In general, MDFW quarantine recommendations for ferrets mirror the MDAR dog and cat quarantine recommendations.

E. Management of Domestic Animals that Expose Humans

All exposures by dogs, cats and other domestic animals must be reported to the local health department and Animal Inspector serving the town where the biting animal is housed or kept for evaluation. The MDPH algorithm for *Management of Human Exposures to Suspect Rabid Animals* (Attachment 2) includes information for evaluating human exposures, initiating prophylaxis, and submitting specimens for testing.

1. Dogs and Cats

Massachusetts law requires that dogs and cats that expose humans be quarantined for 10 days (MGL c. 129, s. 21). The animal inspector will determine the location and enforcement of the quarantine. The Department of Agricultural Resources table for *Management of Dogs and Cats Which Expose Humans* provides guidelines for managing dogs and cats that bite or scratch humans (Attachment 8).

If the animal dies or is euthanized before the end of the 10-day quarantine period, it must be decapitated and the head examined by the MDPH, State Laboratory Institute, Virology Laboratory for rabies. Responsibility for sending or delivering the head to the State Laboratory Institute is determined within the city or town. If the dog or cat escapes and is unable to be observed for a 10-day period, the animal inspector and local health department should be notified immediately. Exposures by domestic animals (including farm animals) that are not available for observation need to be evaluated on an individual basis (Attachment 2).

2. Livestock

The management of cattle generally follows the activities that would occur in the case of a dog, cat or ferret. There has not been a documented case of transmission of rabies from livestock to humans in the U.S. and it is an extremely rare occurrence elsewhere. However, there have been no scientific studies on shedding time in most livestock, for example horses, sheep, goats and pigs, to confirm that the shedding of virus is limited to ten days before the livestock dies from rabies. (Studies have been conducted for dogs, cats, and ferrets with limited data available on cattle.) Therefore, depending on the species of animal involved and the circumstances of the exposure, MDPH epidemiologists may request that MDAR have the animal tested for rabies rather than place it under quarantine, or if that is not possible, will recommend that the human contact their physician regarding post-exposure treatment. The animal inspector will determine the location and enforcement of the quarantine. If the cow escapes and is unable to be observed for a 10-day period, the animal inspector and local health department should be notified immediately.

If the cow dies or is euthanized before the end of the 10-day quarantine period, it must be decapitated and the head examined for rabies by the MDPH State Laboratory Institute, Virology Laboratory. Responsibility for sending or delivering the head to the State Laboratory Institute is determined within the city or town.

If a quarantined cow does not exhibit signs of rabies, milking of rabies vaccinated dairy cows can continue.

3. Wild Animals Crossbred to Domestic Animals

There is no vaccination licensed for use in these animals, and the period of rabies virus shedding in these animals is unknown. Therefore, quarantine is not appropriate. Wolf/dog hybrids that expose humans should be euthanized, regardless of vaccination history and regardless of whether or not the bite was provoked.

4. Rodents and Lagomorphs

Rodents (hamsters, guinea pigs, gerbils, rats and mice) and lagomorphs (rabbits) are rarely found to be infected with rabies and have not been known to cause rabies in humans in the United States

Provoked Exposure: If the exposure was provoked (such as through feeding, petting, or playing with the animal) and the animal appeared healthy, it is unlikely that the animal was rabid at the time of the exposure and most experts would not recommend treatment. However, since rare cases of rabies in rodents do occasionally occur, the animal could be submitted for testing if available.

Unprovoked Exposure: If the exposure was unprovoked or the animal appeared unhealthy, it should be submitted for testing. If the animal is unavailable for testing, the healthcare provider should consider post-exposure rabies treatment.

a) Healthy caged rodents and lagomorphs such as hamsters, gerbils, rats, mice and rabbits which have been caged **exclusively** indoors for the past six months or more and which have not been exposed to any potentially rabid animals for the past six months pose negligible risk for being rabid.

b) Rodents and lagomorphs caged outdoors: In Massachusetts there has been one case of a rabbit caged outdoors developing rabies after exposure to a rabid skunk. Rodents and lagomorphs caged outdoors may be attacked by rabid animals but may be protected enough by the cage to survive the attack. If a human is exposed to a rodent or lagomorph caged outdoors, submitting the animal for testing should be considered.

5. Ferrets

Ferrets have occasionally been found to be infected with rabies in the US. In the event of a human exposure, a ferret should be quarantined for a 10-day period, regardless of vaccination status.

F. Submission of Specimens to the Massachusetts Department of Public Health (MDPH) State Laboratory Institute (SLI) for Rabies Testing

The MDPH Bureau of Laboratory Sciences revised guidelines for submission of specimens for rabies testing are attached (Attachment 9). Attachment 9 includes a cover letter to Boards of Health, a *Specimen Submission Form for Rabies Testing* and guidelines for specimen submission.

Decisions about who is responsible for transporting or sending specimens to the MDPH State Laboratory Institute should be made locally.

G. Other Resources

A *Useful Rabies Contact Information* page is attached (Attachment 10). This list provides telephone numbers and internet addresses for key agencies providing information on rabies or other resources.

H. Compendium of Animal Rabies Prevention and Control

The most recent edition of the *Compendium of Animal Rabies Prevention and Control*, published by the National Association of State Public Health Veterinarians (NASPHV), provides recommendations that serve as the basis for animal rabies control programs. (Refer to Attachment 10) The *Compendium* contains recommendations for immunization of domestic animals, a list of all USDA-licensed animal rabies vaccines, and information regarding rabies control.

CHAPTER 4: WILD ANIMAL ISSUES

The Massachusetts Department of Fish and Game, Division of Fisheries and Wildlife and Office of Law Enforcement (OLE) have exclusive authority over wildlife in the state (MGL c.131, s.4, s.5 and c.21, s.6D).

These two agencies are involved in rabies control. The Department of Fish and Game has developed systems to address rabies at various levels of government.

The goals of the Department of Fish and Game are:

- To protect the public from situations where wildlife presents a threat to public safety by responding effectively to incidents involving wild animals that might have exposed a human or a domestic animal.
- To reduce the spread of rabies between wild animals and from wildlife to humans.
- To monitor the occurrence, progression, and advancement of this wildlife disease in the Northeast; and
- To eliminate the indiscriminate destruction of a state resource by the killing of healthy wild animals based on the general occurrence of rabies.

The Division of Fisheries and Wildlife has developed response systems and regulations to meet the following objectives to reduce the spread of rabies from and among wildlife:

- to increase public awareness through education;
- to eliminate the importation of wild animals that are high risk rabies carriers into the state;
- to prohibit the relocation of wild animals within the state;
- to prohibit the possession of wild animals as pets;
- to regulate raccoon populations through the harvest of animals by licensed hunters and trappers, which will lower raccoon densities in local areas;
- to discourage the rental or loaning of live traps to homeowners; and
- to respond effectively to sick or aggressive wild animals that pose a high risk to public safety.

A. Action of City / Town Law Enforcement

The Division of Fisheries and Wildlife allows any state or municipal police officer to immediately kill raccoons, bats, skunks, foxes, or woodchucks that are displaying behavior that causes such officer to reasonably conclude that such animal is rabid. (Police officers should be reminded that if the animal is to be tested for rabies, the brain must be kept intact.) The intent of this is to allow the abovementioned officials to kill wild animals under certain specific circumstances, not to place the responsibility with them. Police officers have no local authority to help landowners with raccoons or other wild animals that are causing property damage.

NOTE: Nocturnal animals, like raccoons, may be active during the daytime and not be ill. Wildlife seen during daylight should not be randomly destroyed under the suspicion of rabies. Police officers and other officials mentioned above do not have any legal ability to destroy any wild animal other than described above.

B. Action of Animal Control Officials (Dog Officers, Animal Control Inspectors, Animal Control Officers)

The Division of Fisheries and Wildlife will allow dog or animal control officers, or any municipal staff member operating in an official capacity, or a designated individual formally appointed in writing by a community's board of health, to immediately kill bats, raccoons, skunks, foxes, or woodchucks that display behavior that causes such officer to reasonably conclude that such animals are rabid. The intent of this policy is to allow animal control officials to kill wild animals under certain specific circumstances, but not to assign to them this responsibility.

Dog officers or animal control officers can only assist landowners incurring property damage if they (municipal employees) are authorized by permit from the Division to do so, pursuant to 321 CMR 2.14. The Division of Fisheries and Wildlife will allow canine or animal control officers or an employee of the highway department as appointed by the Local Board of Health, to remove automobile killed wildlife from roads and highways for testing or for sanitary disposal to eliminate a road hazard.

C. Local Health Department or Board of Health Issues

Since local resources vary, the local director of health should meet with appropriate local officials (selectmen, police department, animal inspector, dog officer, animal control officer) and identify individuals who will respond to complaints of potentially rabid wild animals.

D. Action of Massachusetts Division of Fisheries and Wildlife (MDFW)

MDFW personnel will provide technical advice and information to the general public regarding wildlife problems or general wildlife questions. Telephone assistance is available from MDFW regional offices during business hours, Monday through Friday, at the following telephone numbers:

- Pittsfield 413-447-9789
- Belchertown 413-323-7632
- West Boylston 508-835-3607
- Acton 508-263-4347
- Bourne 508-759-3406
- Westboro 508-792-7270
- Boston 617-626-1591

MDFW wildlife personnel will provide emergency assistance with exposure cases or in situations involving sick wild animals that represent an immediate risk of exposure to humans. However, due to limitations of personnel and the resulting difficulty of providing timely assistance, requests from the public to MDFW will routinely be first referred to local officials.

MDFW has public information available to towns and school systems which includes:

- A pamphlet entitled *Rabies and Wildlife: Information for Sportsmen, Woodsmen, and Fur Harvesters;*
- A rabies leaflet for the general public entitles *Wildlife Rabies in Massachusetts; What you should Know*;
- A handbill regarding state law prohibiting relocation of wildlife;
- A handbill on orphaned wildlife; and
- A slide show for the general public regarding rabies and wildlife.

All of this information is currently available at each of the district offices listed above. In addition, some of these items are also available at the MDFW web site www.masswildlife.org.

E. Action of Problem Animal Control (PAC) Agents

Removal of problem wildlife (wildlife causing property damage) is the responsibility of the homeowner. However, if a homeowner does not have the knowledge, expertise, or ability to resolve their problem, they can engage the services of a Problem Animal Control (PAC) agent. PAC agents are private individuals (or specifically authorized municipal employees) who are licensed by the MDFW to assist the public in situations dealing with property damage caused by certain species of wildlife, pursuant to (321 CMR 2.14).

Homeowners requesting the services of a PAC agent should be informed that PAC agents are not state employees and they charge a fee for their services. In addition, they must be informed that relocation of wildlife in Massachusetts is prohibited by state law. Problem animals can be released on the same property or destroyed in accordance with state wildlife laws. These same restrictions apply to homeowners trapping any wild animal causing damage of their property. A listing of PAC agents is available from MDFW Boston office (617-626-1591) or at the MDFW web site at www.masswildlife.org. Since licensed agents change from year to year, be sure to check the current updated listing of PAC personnel.

Wildlife species covered: raccoon, striped skunk, muskrat, long tail and short tail weasel, red and gray fox, opossum, porcupine, rats, mice, moles, voles, gray squirrel, red squirrel, chipmunk, European rabbit, cottontail rabbit, snapping turtles, pigeon, house sparrow, starling, bats. (However, certain rare species of bats and voles are not covered under licensing authorization.)

PAC Agents are not permitted to handle sick wildlife, nor wildlife not covered under their permit. Injured wildlife can be taken to a MDFW licensed wildlife rehabilitator.

F. Action of Wildlife Rehabilitators

The services of a licensed wildlife rehabilitator are available for placement of a sick, injured, or orphaned wild animal. A list of MDFW licensed wildlife rehabilitators can be obtained by calling the DFW Boston office at 617-626-1591 or by accessing the DFW web site at www.masswildlife.org. In general, the best advice is to leave these animals alone and to let nature take its course. NOTE: Many wildlife rehabilitators have stopped accepting raccoons because of the rabies epizootic. Other rehabilitators reach a limit regarding the number of animals they can accommodate at their facilities.

G. Office of Law Enforcement

The Massachusetts Environmental Police will continue to respond to requests for assistance in any case involving wildlife issues, particularly when there is a clear and immediate danger to the public's safety.

In the case of suspect rabid animals, however, the policy of the Office of Law Enforcement has been to ask local officials to take the immediate steps necessary before OLE will become involved. This is necessitated by the current statewide deployment of field officers, who must each cover an area of 180 square miles. In many instances, this precludes an immediate response for assistance.

As much as possible, environmental police will provide assistance to any community that requests it. The communication center 1-800-632-8075 is available 24 hours a day (hours may be reduced during winter months), for calls for assistance or advice and can provide transportation or coordination for the delivery of specimens to the MDPH State Laboratory Institute.

OLE Rabies Contact Persons:

Deputy Director Roger Arduini	617-626-1653	or	413-237-0799
Inland Chief Bruce Bennett	508-366-6537	or	413-237-1054
Coastal Chief Kathleen Dolan	781-740-1163	or	617-645-6629

H. Disposal of Carcasses

Once the possibility of exposure to a human or domestic animal is ruled out and no rabies testing is necessary, carcasses of suspect rabid animals should either be incinerated in facilities approved for that purpose or buried at a depth sufficient to prevent access by other animals, at least three feet. Any suspect rabid animal that has exposed a human or domestic animal should be submitted to the State Laboratory Institute for rabies testing.

ATTACHMENT 1: GUIDE TO RABIES POST-EXPOSURE EVALUATION AND MANAGEMENT

Animal type	Evaluation and disposition of animal	Post-exposure prophylaxis (PEP) recommendation
Dogs, cats, ferrets and cattle	Healthy and available for 10 day observation, **quarantine** regardless of vaccination status[1]	Should not begin PEP unless animals develops rabies
	Rabid	Immediate PEP
	Suspected Rabid Available for testing	Await testing results; begin PEP immediately if the animal is positive for rabies.
	Unavailable for testing	Immediate PEP
	Unknown (escaped)	Immediate PEP
Skunks, raccoons, bats,[2] foxes, and most other carnivores, including dog/wolf hybirds[3] and woodchucks	Regard as rabid until animal proven negative by laboratory tests.[4] (Animal available for testing.)	Await testing results; begin PEP immediately if the animal is positive for rabies.
	Animal unavailable for testing	Immediate PEP
Rodents (except woodchucks), and lagomorphs (rabbits and hares) and other small mammals except bats	Consider individually[5]	Bites of squirrels, hamsters, guinea pigs, gerbils, chipmunks, rats, mice, other small rodents, rabbits, and hares **almost never neccessitate** PEP. However, testing and/or PEP is indicated in some circumstances.
Horses, sheep, pigs and goats	Consider individually	Bites of horses, sheep, pigs and goats **almost never necessitate** PEP. However, testing and/or PEP is indicated in some circumstances.

1 If a dog, cat, ferret,or cow being held for the 10-day quarantine develops signs of rabies or signs of any illness, it should be euthanized and tested immediately. If the results are positive, the exposed person should begin PEP immediately.

2 Since the size of bites or scratches by bats may be very small, individuals may fail to recognize that an exposure has occurred. Thus, bat bites may go unnoticed or be mistaken for an insect bite or sting. **Post-exposur**e **treatment** should be **given** in any situation where a bat is physically present and a **bite**, or any **other exposure/contact, cannot be ruled out.** This is particularly important when children are involved, and there are no witnesses to rule out a potential exposure.

3 Dog/wolf hybirds, regardless of vaccination history, are considered wild, unvaccinated animals.

4 The animal should be killed and tested as soon as possible. Holding for observation is not recommended. Do not give post-exposure prophylaxis if immunofluorescence test results of the animal are negative.

5 Rodents (except woodchucks), lagomorphs (rabbits, hare), and other small mammals except bats:

a) **Small mammals caged outdoors:** Outdoor cages may allow exposure to rabid animals, and several rabies cases have been reported from animals caged in this manner. If the animal is not available for testing, post-exposure prophylaxis is recommended.

b) **Small mammals caged indoors:** Healthy hamsters, gerbils, rats, mice, and rabbits, etc. which have been caged **exclusively indoors** for the past 6 months and which have no history of receiving a modified live rabies vaccine, pose no risk. Treatment would not be recommended for the exposed person.

c) **Wild rodents, lagomorphs and other small mammals except bats:** These animals are unlikely to have rabies. Each exposure needs to be evaluated as outlined below.

d) **Beavers and otters:** Although these species are rarely encountered by human beings, they represent a rabies risk closer to that posed by woodchucks than to the smaller mammals. If the animal is unavailable for testing, PEP should be considered.

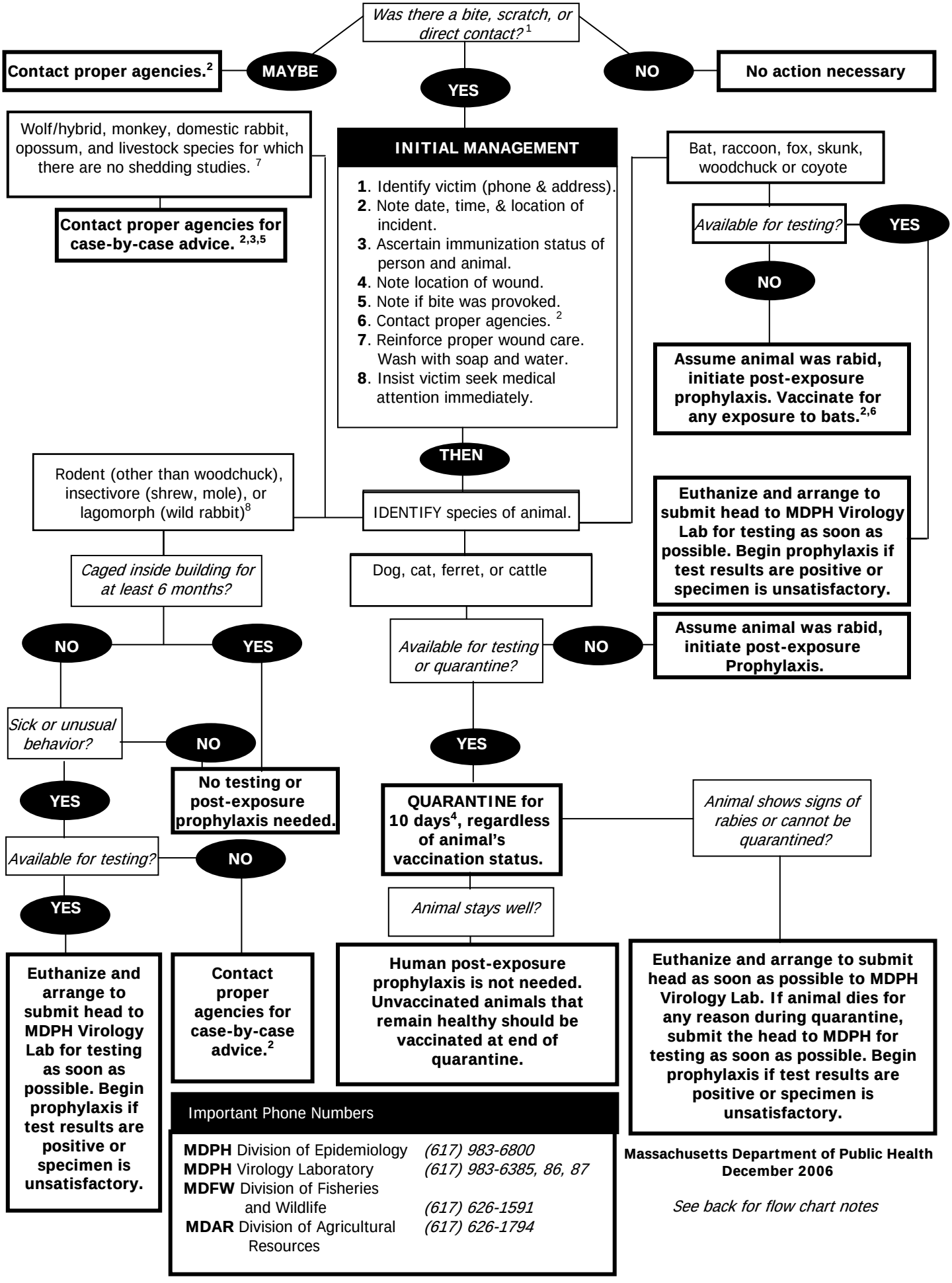
i) **Provoked bite:** If the bite was provoked (such as through feeding, petting, or playing with the animal) and the animal appeared healthy, it is unlikely that the animal was rabid at the time of the bite and most experts would not recommend post-exposure prophylaxis.

ii) **Unprovoked bite or unhealthy animal:** If the bite was unprovoked or the animal appeared unhealthy, it should be submitted to the MDPH State Laboratory Institute for testing. If the animal is unavailable for testing, PEP should be considered.

NOTE: Birds, reptiles, amphibians, and fish do <u>not</u> get rabies.

(Adapted from: CDC, MMWR. January 8, 1999 / Vol. 48 / No. RR-1. MDPH revised and updated December 2006.)

ATTACHMENT 2: Management of Human Exposure to Suspect Rabid Animals



Important Phone Numbers

MDPH Division of Epidemiology	*(617) 983-6800*
MDPH Virology Laboratory	*(617) 983-6385, 86, 87*
MDFW Division of Fisheries and Wildlife	*(617) 626-1591*
MDAR Division of Agricultural Resources	*(617) 626-1794*

Massachusetts Department of Public Health
December 2006

See back for flow chart notes

RABIES FLOW CHART NOTES

1. Defined as a bite, scratch, or direct contact where there is contamination of a scratch, abrasion, mucous membrane, or open wound (one that has been bleeding in the past 24 hours) with potentially infectious material such as saliva or central nervous system tissue or fluid.

2. Contact the Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization for advice on human exposure. Domestic animal exposure should be reported to the local animal control official or the Massachusetts Division of Agricultural Resources (MDAR), Bureau of Animal Health and Dairy Services. Questions about wild animal exposures and ferret exposures should be addressed to the Massachusetts Division of Fisheries and Wildlife (MDFW).

3. Wolf/hybrids are considered unvaccinated despite vaccination history.

4. The type of quarantine will be determined by the local animal inspector. Questions about all domestic animal quarantines except ferrets should be addressed to the Bureau of Animal Health. Questions about ferret quarantines should be addressed to the MDFW.

5. Wild rabbits are at low risk for rabies, but rabbits caged outdoors are at greater risk. Bites by wild rabbits rarely warrant prophylaxis. However, a rabbit caged outdoors that bites a human should be tested for rabies.

6. Post-exposure prophylaxis should be given in any situation where a bat is physically present and a bite, or any other exposure/contact, cannot be ruled out. In situations which there is reasonable probability that such contact occurred (e.g. a sleeping individual awakes to find a bat in the room, an adult witnesses a bat in the room with a previously unattended child, person of diminished competence, intoxicated individual, etc.), post-exposure prophylaxis is appropriate even in the absence of a demonstrable bite or scratch.

7. If a person is bitten or otherwise exposed to the saliva of a wild animal or a domesticated animal for which there are no shedding studies, the animal may need to be euthanized and tested for rabies. Since the shedding period of rabies virus in such animals is unknown, a quarantine period (e.g., of two weeks) is not appropriate in the event that a person is bitten or otherwise exposed to the animal's saliva. Contact the Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization for advice on human exposures to these animals. In addition, exposures to these animals should also be reported to the local animal control official or the Massachusetts Department of Agricultural Resources (MDAR).

8. Although beavers and otters are rarely encountered by human beings, they represent a rabies risk closer to that posed by woodchucks than to the smaller mammals. If the animal is unavailable for testing, PEP should be considered.

IMPORTANT TELEPHONE NUMBERS

MDPH, Division of Epidemiology and Immunization:	(617) 983-6800
MDPH, State Laboratory Institute, Virology Laboratory:	(617) 983-6385, -6386, -6387
MDFW, Division of Fisheries and Wildlife:	(617) 626-1591
MDAR, Division of Agricultural Resources, Bureau of Animal Health and Dairy Services:	(617) 626-1794

ATTACHMENT 3: RABIES POST-EXPOSRE PROPHYLAXIS SCHEDULE

If NOT PREVIOUSLY VACCINATED

Treatment	**Regimen**[1]
Local Wound Cleaning	All post-exposure treatment should begin with immediate, thorough cleaning of all wounds with soap and water.
Human Rabies Immune Globulin (HRIG)	20 IU/kg body weight given once on day 0. If anatomically feasible, the full dose should be infiltrated around the wound(s), the rest should be administered IM in the gluteal area. HRIG should **not** be administered in the **same syringe, or** into the **same anatomical site** as vaccine, or more than 7 days after the initiation of vaccine. Because HRIG may partially suppress active production of antibody, no more than the recommended dose should be given.
Vaccine	Human Diploid Cell Vaccine (HDCV), Rabies Vaccine Adsorbed (RVA)*, or Purified Chick Embryo Cell Vaccine (PCEC) 1.0 ml **IM** (**deltoid area**[2]**),** on days 0, 3, 7, 14, and 28.

If PREVIOUSLY VACCINATED[3]

Treatment	**Regimen**[1]
Local Wound Cleaning	All post-exposure treatment should begin with immediate, thorough cleaning of all wounds with soap and water.
HRIG	HRIG should **not** be administered
Vaccine	HDCV, RVA*, or PCEC, 1.0 ml **IM** (deltoid area[2]), on days 0 and 3.

CORRECT VACCINE ADMINISTRATION SITES

Age Group	**Administration Site**
Children and Adults	DELTOID[2] only (NEVER in gluteus)
Infants and Young Children	Outer aspect of thigh (anterolateral thigh) may be used (NEVER in gluteus)

[1]These regimens are applicable for all age groups, including children.
[2]The **deltoid** area is the **only** acceptable site of vaccination for adults and older children. For infants and young children, the outer aspect of the thigh (anterolateral thigh) may be used. Vaccine should **NEVER** be administered in the gluteal area.
[3]Any person with a history of pre-exposure vaccination with HDCV, RVA, PCEC; prior post-exposure prophylaxis with HDCV, RVA, PCEC; or previous vaccination with any other type of rabies vaccine and a documented history of antibody response to the prior vaccination.
*Although this vaccine is licensed, it is currently unavailable.

Adapted from: Centers for Disease Control and Prevention. Human rabies prevention — United States, 1999: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999;48 (No. RR-1).

ATTACHMENT 4: RABIES PRE-EXPOSURE PROPHYLAXIS GUIDE

Risk category	Nature of risk	Typical Populations	Pre-exposure Recommendations
Continuous	Virus present continuously, often in high concentrations. Aerosol, mucous membrane, bite or non-bite exposure. Specific exposures may go unrecognized.	Rabies research lab worker[1], rabies biologics production workers.	Primary course. Serologic testing every 6 months; booster vaccination when antibody level falls below acceptable level.[2]
Frequent	Exposure usually episodic, with source recognized, but exposure may also be unrecognized. Aerosol, mucous membrane, bite, or non-bite exposure.	Rabies diagnostic lab workers[1], spelunkers, veterinarians and staff, and animal-control and wildlife workers in rabies endemic areas. Travelers visiting foreign areas of endemic rabies for more than 30 days.	Primary course. Serologic testing or booster vaccination every 2 years.[2]
Infrequent (greater than population at large)	Exposure nearly always episodic with source recognized. Mucous membrane, bite, or non-bite exposure	Veterinarians and animal-control and wildlife workers in areas of low rabies endemnicity. Veterinary students.	Primary course; no serologic testing or booster vaccination.
Rare (population at large)	Exposures always episodic. Mucous membrane, or bite with source unrecognized.	U.S. population at large, including persons in rabies endemic areas.	No vaccination necessary.

[1] Judgment of relative risk and extra monitoring of vaccination status of laboratory workers is the responsibility of the laboratory supervisor.

[2] Minimum acceptable antibody level is complete virus neutralization at a 1:5 serum dilution by RFFIT. Booster dose should be administered if the titer falls below this level.

RABIES PRE-EXPOSURE PROPHYLAXIS SCHEDULE

Type of Vaccination	Route	Regimen
Primary	IM	HDCV, RVA* , PCEC, 1.0 ml (deltoid area), On days 0, 7, and 21 or 28
Booster[1]	IM	HDCV, RVA*, PCEC, 1.0 ml (deltoid area), day 0 only

[1]Administration of routine booster dose of vaccine depends on exposure risk category as noted in the table above.

*Although this vaccine is licensed, it is currently unavailable.

Adapted from: Centers for Disease Control and Prevention. Human rabies prevention — United States, 1999: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999; 48 (No. RR-1).

ATTACHMENT 5

Massachusetts Department of Agricultural Resources
Bureau of Animal Health
NOTICE OF POSSIBLE EXPOSURE TO RABIES AND QUARANTINE ORDER

This order is enforceable under Chapter 129; section 21, 330 CMR 10.00.

Your pet may have been exposed to rabies as a result of recent exposure to wildlife or a high-risk domestic animal.

Your animal is being quarantined due to (check appropriate exposure category):

1) _____ Direct contact with a confirmed rabid animal (confirmed by the State Rabies Lab)

2) _____ Direct contact with a suspect rabid animal (raccoon, skunk, woodchuck or any carnivorous animal)

3) _____ A wound of unknown origin, suspected to be caused by another animal (e.g. cat abscesses)

4) _____ A proximity exposure to a confirmed rabid animal (confirmed by the State Rabies Lab)

If your animal is unvaccinated, you are urged to have it euthanized (unless animal was only exposed by proximity). If you do not, you are hereby ordered to (check appropriate measure):

_____ Isolate your pet for 3 months, followed by 3 months of strict confinement. Vaccinate the animal 1 month prior to release.

_____ Strictly confine your pet for 6 months. Vaccinate the animal 1 month prior to release. (If animal was only exposed by proximity, vaccinate immediately).

If your animal is currently vaccinated, you are hereby ordered to:

_____ Vaccinate your pet immediately followed by 45 days strict confinement.

You are to inform your veterinarian immediately of any unusual behavior or change in the health status of this animal. Any animal which dies while under quarantine shall be submitted for rabies testing.

_____ Animal was euthanized Date of exposure: _____

Name of owner: _____ Phone number: (_____) _____

Address: _____ Town: _____ Zip: _____

Type of animal: [Dog ____] [Cat ____] [Other ____](specify) _____ Age: _____

Name of animal: _____ Breed: _____ Colors: _____

Date of last rabies vaccination: _____ Duration: [1yr ____] [3yr ____] [unknown ____]

Date of booster vaccination (given to current vaccinates only): _____

Name of veterinarian: _____ Phone number: (____)_____

Name of Animal Inspector: _____ Phone number: (____)_____

_____ _____
Signature of Animal Inspector (required) Date

See back side of this form for explanation of terms and signs of rabies.

I hereby certify that I have read both sides of this document and I agree to follow the provisions described in it.

_____ _____
Signature of owner or other person responsible Refused to sign, but order was issued
Animal Inspector please initial if not signed

White Copy - Owner / Pink Copy - Bureau of Animal Health immediately / Yellow Copy - Bureau of Animal Health after release
Dept. of Agricultural Resources, Bureau of Animal Health, 251 Causeway Street, Suite 500, Boston, MA 02114-2151

RELEASE FROM QUARANTINE

The animal(s) described on the right does not in my opinion show symptoms of any infectious contagious disease.

_____
Inspector of Animals

_____
Date

Instructions to inspector: Write the full name of the person to whom you delivered the original order of quarantine. Designate that person as the owner, or person having interest in, or person in charge, by crossing out the words which do not apply. If you are not able to deliver the original order of quarantine to the primary caretaker, please post the original on premises.

Commonwealth of Massachusetts
DEPARTMENT OF AGRICULTURAL RESOURCES
DIVISION OF BIOSECURITY AND REGULATORY SERVICES

ORDER OF QUARANTINE

Massachusetts General Laws, Chapter 129 2, 21, 22

Town or City of.....Date.....

To.....owner/person having an interest in/or person in charge.

Upon premises of.....Address.....
The following is quarantined, by virtue of the power and authority vested in me by law
.....

(Number, Sex, Species, Breed, Age, Color, Name)
Reason for quarantine.....
[Suspected disease, importation violation, animal bite (name of person bitten / address / date of bite)]
.....
.....
.....

Further conditions of quarantine:.....
You and all other persons whom it may concern are hereby forbidden to remove anything under quarantine from the premises for any purpose whatsoever, except by permission of Chief of Animal Health or his authorized agent. VIOLATION OF THIS ORDER CAN RESULT IN A FINE OF UP TO FIVE HUNDRED DOLLARS OR BY IMPRISONMENT FOR NOT MORE THAN ONE YEAR, OR BOTH.

Form 38 .....Inspector of Animals

RABIES PROTOCOL

MANAGEMENT OF DOGS AND CATS EXPOSED TO WILDLIFE

Definitions

1. Isolation
   a) Restricting a domestic animal from any direct human or other animal contact.
   b) Animal must be confined to a facility such as a dog pound, veterinary hospital, commercial kennel or quarantine facility for livestock approved by the Animal Inspector of the appropriate municipality; or isolation at home under conditions approved by the Animal Inspector of the municipality and the Department.

2. Strict Confinement
   a) Animal may be kept at home in an escape-proof, solid walled building with a roof, approved by the Animal Inspector of the municipality.
   b) Animal may be leash walked by an adult or under the direct supervision of an adult.
   c) Owner informed of potential rabies risk and given instructions in writing.
   d) Owner required to notify veterinarian and Animal Inspector of unusual behavior or change in health status of pet.

3. Exposed by Proximity - Seen near or in the vicinity of a confirmed rabid animal, but which had no physical contact with nor received any wounds from the confirmed rabid animal.

4. Quarantine - Confinement of a domestic animal from humans and other animals for the purpose of observing the animal for signs of rabies and minimizing chances of the animal spreading rabies to humans or other animals. This includes isolation and strict confinement.

5. Signs of Rabies - Unexplained aggression, impaired locomotion, varying degrees of paralysis, extreme depression or viciousness. The signs of rabies vary in animals. Some will display attack-like behavior while others appear sick or dazed.

6. For further information, contact the Animal Inspector in your city / town.

ATTACHMENT 6

RABIES PROTOCOL

MANAGEMENT OF DOGS & CATS EXPOSED TO WILDLIFE
(Raccoon, skunk, fox, bat, woodchuck or any carnivorous wild animal)

Exposure Category	If Dog or Cat is Currently Vaccinated	If Dog or Cat is NOT Currently Vaccinated
Category 1 Direct contact with or visible bite from a confirmed rabid animal (includes eating viscera)	1. Booster Immediately 2. Notify local director of health and local animal inspector 3. Strict Confinement for 45 days	1. Euthanize, or 2. If owner unwilling: a. Notify local director of health and local animal inspector b. Isolate for 3 months followed by 3 months strict confinement c. Vaccinate 1 month prior to release
Category 2 Direct contact with or visible bite from a suspect rabid animal which is unavailable for testing (includes eating viscera)	1. Booster Immediately 2. Notify local director of health and local animal inspector 3. Strict Confinement for 45 days	1. Euthanize, or 2. If owner unwilling: a. Notify local director of health and local animal inspector b. Strict confinement for 6 months c. Vaccinate 1 month prior to release
Category 3 Wound of unknown origin suspected to be caused by another animal (e.g. cat abscesses)	1. Booster Immediately 2. Notify local director of health and local animal inspector 3. Strict Confinement for 45 days	1. Euthanize, or 2. If owner unwilling: a. Notify local director of health and local animal inspector b. Strict confinement for 6 months c. Vaccinate 1 month prior to release
Category 4 Exposure by proximity seen near or in close proximity to a confirmed rabid animal (no contact or wounds)	1. Booster Immediately 2. Notify local director of health and local animal inspector 3. Strict Confinement for 45 days	1. Vaccinate immediately 2. Notify local director of health and local animal inspector 3. Strict confinement for 6 months

- Always wear gloves when handling saliva-contaminated wounds or fur.
- Always advise owner of rabies risk.
- Veterinarians must inform the local animal inspector of any potential rabies contact cases seen at their offices
- Protocol for ferrets is similar, but notification must be made to the Division of Fisheries and Wildlife

1. Do not vaccinate any unimmunized dog or cat in categories 1, 2 or 3. Timing of vaccination should follow above schedule
2. If most recent rabies vaccination was administered within one month, it is not necessary to booster.
3. Dog or cat should be examined by a veterinarian to assure there are no wounds.
4. Massachusetts Division of Fisheries and Wildlife: (617) 626-1575

This document was prepared by the Massachusetts Department of Agricultural Resources, Bureau of Animal Health
Revised: 3/16/06

Questions? (617) 626-1794

ATTACHMENT 7

RABIES PROTOCOL

MANAGEMENT OF DOGS & CATS EXPOSED TO OTHER DOMESTIC ANIMALS

(Wolf Hybrids and other exotic pets are considered to be wild animals)

Vaccination Status of Exposing Animal Not Relevant to Recommendations

Exposure Category	Exposed Dog or Cat is Currently Vaccinated	Exposed Dog or Cat is NOT Currently Vaccinated
Category 1 Visible bite or scratch from another domestic animal which has been identified and is available for quarantine	1. Notify local director of health and local animal inspector 2. Biting animal will be placed under strict confinement for 10 days 3. A) If biting animal is healthy at the end of 10 days, victim is not at risk for rabies 3. B) If biting animal begins to exhibit signs compatible with rabies, biting animal should be euthanized and submitted for rabies testing 4. A) If test results are negative, victim is not at risk for rabies 4. B) If test results are positive, 1. Booster victim immediately 2. Notify local director of health and local animal inspector 3. Strict confinement by owner for 45 days	1. Notify local director of health and local animal inspector 2. Biting animal will be placed under strict confinement for 10 days 3. A) If biting animal is healthy at the end of 10 days, victim is not at risk for rabies - Vaccinate victim 3. B) If biting animal begins to exhibit signs compatible with rabies, biting animal should be euthanized and submitted for rabies testing 4. A) If test results are negative, victim is not at risk for rabies, vaccinate victim 4. B) If test results are positive, 1. Notify local director of health and local animal inspector 2. Euthanize, or Isolation for 3 months followed by 3 months strict confinement - vaccinate at 5 months
Category 2 Visible bite or scratch from another domestic animal which has NOT been identified and is NOT available for quarantine	1. Booster victim immediately 2. Notify local director of health and local animal inspector 3. Strict confinement by owner for 45 days	1. Notify local director of health and local animal inspector 2. Strict confinement by owner for 6 months - vaccinate at 5 months

- Any non-domestic animal biting a human needs to be reported to the Department of Public Health
- Protocol for ferrets is similar, but notification must be made to the Division of Fisheries and Wildlife
- Do not vaccinate any dog or cat which is under a 10-day quarantine
- Any animal euthanized while under a 10-day quarantine MUST be submitted for rabies testing
- If most recent rabies vaccination was administered within 30 days, it is not necessary to re-vaccinate

1. Massachusetts Department of Public Health, Division of Epidemiology: (617) 983-6800

2. Massachusetts Department of Agricultural Resources, Bureau of Animal Health: (617) 626-1794

3. Massachusetts Division of Fisheries and Wildlife: (617) 626-1575

This document was prepared by the Massachusetts Department of Agricultural Resources, Bureau of Animal Health

Revised: 3/16/06

Questions? (617) 626-1794

ATTACHMENT 8

RABIES PROTOCOL

MANAGEMENT OF DOGS & CATS WHICH BITE HUMANS
(Wolf Hybrids and other exotic pets are considered to be wild animals)

Exposure Category	Vaccination Status of Exposing Animal Not Relevant to Recommendations
Category 1 Visible bite or scratch from a dog or cat, which has been identified and is available for quarantine	1. Notify local director of health and local animal inspector 2. Biting animal will be placed under strict confinement for 10 days 3. A) If biting animal is healthy at the end of 10 days, victim is not at risk for rabies 3. B) If biting animal begins to exhibit signs compatible with rabies, biting animal should be euthanized and submitted for rabies testing 4. A) If test results are negative, victim is not at risk for rabies 4. B) If test results are positive, notify Massachusetts Department of Public Health, Division of Epidemiology
Category 2 Visible bite or scratch from a dog or cat, which has NOT been identified and is NOT available for quarantine	1. Animal must be assumed to be rabid 2. Notify Massachusetts Department of Public Health, Division of Epidemiology 3. Notify local director of health and local animal inspector 4. Furnish local Animal Control with a description of the dog or cat and location where animal was last seen

- Domestic animals other than dogs or cats biting humans should be handled on a case by case basis
- Any non-domestic animal biting a human needs to be reported to the Department of Public Health
- Protocol for ferrets is similar, but notification must be made to the Division of Fisheries and Wildlife
- Do not vaccinate any dog or cat which is under a 10-day quarantine
- Any animal euthanized while under a 10-day quarantine MUST be submitted for rabies testing

1. Massachusetts Department of Public Health, Division of Epidemiology: (617) 983-6800
2. Massachusetts Department of Agricultural Resources, Bureau of Animal Health: (617) 626-1794
3. Massachusetts Division of Fisheries and Wildlife: (617) 626-1575

This document was prepared by the Massachusetts Department of Agricultural Resources, Bureau of Animal Health

Revised: 3/16/06

Questions? (617) 626-1794

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH STATE LABORATORY INSTITUTE
RABIES LABORATORY
305 SOUTH STREET JAMAICA PLAIN, MA 02130

INSTRUCTIONS FOR SENDING SPECIMENS FOR RABIES TESTING

Specimen types:
Ensure that animals submitted are dead. All animals involved in exposures of humans or domestic animals will be tested. With the exception of bats, send the **head only**. "Road kills" may not be appropriate for testing and should not be sent if the head is severely damaged.

Materials:

- 2 zipper-lock or otherwise sealable, leak-proof plastic bags
- Absorbent material (pads, paper towels, etc.)
- 1 frozen cool pack. **Do Not Use Ice**
- 1 pair disposable gloves
- 1 permanent marker
- Self-sticking document pouches
- Labels to identify specimens on bags and forms
- 1 mailing container (cardboard box or plastic foam)
- Cushioning material (newspaper, etc.)
- Biohazard label
- Rabies Lab shipping label (UN3373-Category B)
- Specimen Request for Rabies Testing, SS-RA-1-06

Requisition to use: State Laboratory Specimen Request for Rabies Testing, SS-RA-1-06. Fill out a specimen request form for each animal submitted.

Container for Specimen:

1. If submitting more than one specimen, ensure that each specimen is individually double wrapped and packaged. Identify each wrapped specimen by marking a number on the outer plastic bag. Fill out a specimen request form for each individual specimen submitted and mark the corresponding number from the specimen bag onto the matching specimen form.

2. **Wearing gloves to package specimen**. Wrap the head in an absorbent pad and place the specimen into a plastic bag. Seal the bag. Place a biohazard label on the outside of the bag. Do not place specimen request form in with the specimens. Do not include gloves worn in with the specimen.

3. Place the bagged specimen into the larger plastic bag with additional absorbent material to absorb any specimen liquid.

4. Place a prefrozen cold pack into the bag. **DO NOT USE ICE**. Seal the bag.

5. Place the wrapped, double-bagged specimen inside a cardboard box or foam container with adequate cushioning material. Seal the box. Place a self-sticking document pouch on one side of the cardboard box or foam container. Place all completed Specimen Submission Forms for Rabies Testing into the document pouch and seal the pouch.
   DO NOT PLACE THE SPECIMEN REQUEST FORM(S) INSIDE THE BOX WITH THE SPECIMEN(S).

Storage condition of specimen once collected: Keep refrigerated until sent to State Laboratory.
Do not freeze specimens. Frozen specimens will delay testing by at least 1 business day and increase the chance of an unsatisfactory testing result. If the specimen is frozen accidentally, keep frozen during transport. Specimens should be delivered as soon as possible.

Shipping instructions:
Using the shipping/mailing label provided with this instruction form, complete the submitter's name, address and telephone number area on the label. Place the label on the outside of the box or foam container. Specimens for rabies testing are to be packaged and their containers marked in accordance with regulations for **UN3373- Biological Substances, Category B.** Specimens may be transported via U.S. Postal Service, commercial carriers (such as UPS, FedEx, DHL-Airborne Express, etc.), or private couriers to: Rabies Laboratory
State Laboratory Institute
305 South St., Jamaica Plain, MA, 02130

Special notes:
Animals involved in a human or domestic animal exposure will be tested as soon as possible. Results will be phoned to the submitter when testing is completed. Specimens received by 12:00 pm Monday through Friday will be tested the same day. After normal working hours, contact the Bureau of Communicable Disease Control (BCDC) with regard to emergency testing requests at (617) 983-6800. The State Laboratory does not charge for rabies testing.

Questions: Monday through Friday between 8am and 5pm for testing and specimen transport contact the Rabies Laboratory at (617) 983-6385. Questions (24/7) concerning exposures, the need for testing and prophylaxis call the BCDC at (617) 983-6800.

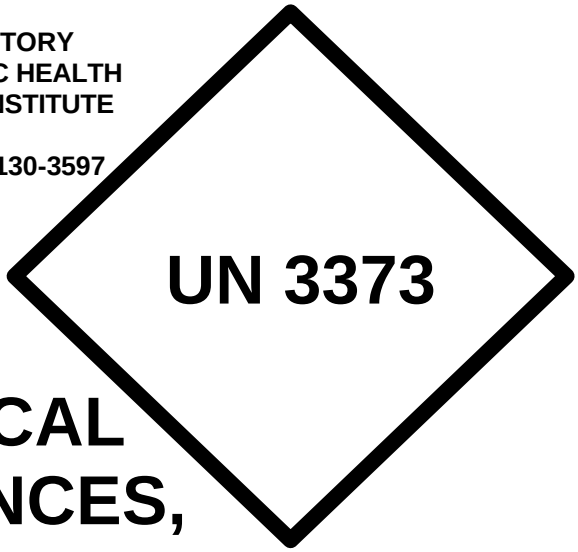
SI-RA-1-07

From:

Person Responsible
Name: _____

Phone: _____

ATTN: RABIES LABORATORY
MASS. DEPT. OF PUBLIC HEALTH
STATE LABORATORY INSTITUTE
305 SOUTH STREET
JAMAICA PLAIN, MA 02130-3597



BIOLOGICAL SUBSTANCES, CATEGORY B

ML-RA-1-07

COPY THIS LABEL AS NEEDED

CUT SHIPPING LABEL ALONG DOTTED LINE. WRAP LABEL AROUND OUTSIDE OF SPECIMEN SHIPPING CONTAINER. SECURE LABEL TO CONTAINER WITH TAPE.

ATTACHMENT 10

USEFUL RABIES CONTACT INFORMATION

(Telephone numbers confirmed as of December 2006)

Division of Epidemiology and Immunization, Massachusetts Department of Public Health (Consultation about human exposures)	
Weekdays/Evenings/Weekends (emergencies)	**(617) 983 - 6800** **(617) 983 - 6200** (alternative)
Rabies Laboratory **Massachusetts State Laboratory Institute**	**(617) 983 - 6385, - 6386, - 6387** **(617) 983-6200**
The Division of Agricultural Resources (To report domestic animal or livestock exposures And for questions regarding domestic animals or livestock)	**(617) 626 - 1794**
The Division of Fisheries and Wildlife (For questions about wild animal and ferret exposures)	**(617) 626 - 1591**
Human Rabies Immune Globulin (HRIG)	
Sarnoff-Pasteur (Manufacturer and distributor of "Misogamy", HRIG)	**1 - 800 - VACCINE**
Telesis (Manufacturer of Hyper HRIG)	**1 - 800 - 243 - 4153**
Human Rabies Vaccine	
Novartis Corporation (Manufacturer and distributor of PCEC)	**1 - 800 – 244-7668**
Sarnoff-Pasteur (Manufacturer and distributor of HDCV)	**1 - 800 - VACCINE**
Emergent Dissolutions (Licensed, but not currently manufacturing Or distributing RVA)	**(517) 327 - 1500**
Labs performing RFFIT on human specimens:	
Atlanta Health Associates, Inc. www.atlantahealth.net	**1 - 800 - 717 - 5612**
Maryland State Rabies Lab www.dhmh.state.md.us/labs/pdf/guide705.pdf	**(410) 767- 6176**
Kansas State University www.vet.k-state.edu/depts/dmp/service/rabies/rffit.htm	**(785) 532- 4483**

USEFUL RABIES INTERNET RESOURCES

(Web sites confirmed as of December 2006)

MDPH Rabies Web Site	http://www.state.ma.us/dph/cdc/epii/rabies/rabies.htm
CDC Rabies Home Page	http://www.cdc.gov/ncidod/dvrd/rabies/
CDC Kids' Rabies Home Page	http://www.cdc.gov/ncidod/dvrd/kidsrabies/
World Health Organization, RABNET	http://www.who.int/emc/diseases/zoo/rabnet.html
Massachusetts Department of Fisheries and Wildlife	http://www.state.ma.us/dfwele/dfw/dfw_toc.htm
Massachusetts Department of Agricultural Resources	http://www.state.ma.us/dfa/
Massachusetts Society for the Prevention of Cruelty to Animals	http://www.mspca.org/
Tufts Cummings School of Veterinary Medicine	http://www.tufts.edu/vet/

OTHER USEFUL RABIES RESOURCES

Compendium of Animal Rabies Prevention and Control 2006

National Association of State Public Health Veterinarians (NASPHV)

(To request a hard copy, contact the Massachusetts Department of Public Health, Division of Epidemiology and Immunization at 617-983-6800)

CDC Rabies Website Professional Resources:

http://www.cdc.gov/ncidod/dvrd/rabies/professional/professi.htm

National Association of State Public Health Veterinarians (NASPHV), Compendium of Animal Rabies Prevention and Control:

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5505a1.htm

Advisory Committee on Immunization Practices (ACIP) Statement on Rabies Prevention

(To request a hard copy contact the Massachusetts Department of Public Health, Division of Epidemiology and Immunization, at 617-983-6800)

1999 ACIP Statement on Rabies Prevention:

http://www.cdc.gov/ncidod/dvrd/rabies/professional/publications/ACIP/ACIP99.pdf

Note: Please check to determine whether an updated version of this document has been published.

CDC Rabies Home Page:

http://www.cdc.gov/ncidod/dvrd/rabies/